

**Date: March 29, 2006**

**To: Oregon State Board of Agriculture**

**From: Coos and Coquille Local Advisory Committee (LAC)**

**Re: 2006 Biennial Review Report**

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## **I. Purpose**

This report summarizes the implementation of the Coos and Coquille Agricultural Water Quality Management Area Plan and Rules (plan and rules) since adoption in March, 2002.

## **II. Introduction**

The Coos and Coquille Agricultural Water Quality Management Area consists of non-federal and non-tribal trust lands in the Coos and Coquille drainages. The LAC, working with the Oregon Department of Agriculture (ODA) and the Coos Soil and Water Conservation District (SWCD), developed and completed the Coos-Coquille Agricultural Water Quality Management Area Plan and Rules, which were adopted following the listing of several stream segments on the Department of Environmental Quality's (DEQ) 303(d) (water quality limited) list. Since the plan and rules were adopted, the Coos SWCD has taken the lead in working with ODA, the Natural Resources Conservation Service (NRCS), OSU Extension, private landowners, and other partners to implement the plan and rules. A more detailed discussion of the history and legal basis for the Coos-Coquille plan and rules adoption can be found on page 6 of this report.

The LAC met for its first biennial review of the plan and rules on April 2004 and received a summary of implementation accomplishments and local compliance activities. The LAC recommended very minor changes to the plan and no changes to the rules.

## **III. Coos and Coquille Area Plan and Rules Review Process**

In March of 2006, as provided by OAR 603-090-0020, the LAC met to conduct the second periodic review and update of their Area Plan and Rules. Management Area landowners representing agricultural commodities (cattle, dairy, cranberries, hay, sheep, and horses) serve on the LAC. Other interests include timber owners and oyster growers. The following LAC members participated:

- Dave Messerle, Chair
- Bonnie Joyce
- Monte Lund
- Heath Hampel
- Tom Johnson
- Joan Mahaffy
- Jolly Hibbits
- Roland Randsdell

At the meeting, several agencies and organizations provided information to the Local Advisory Committee on water quality improvement projects, water quality monitoring, complaints, outreach, and education. Oregon Department of Agriculture staff provided an update on the Agricultural Water Quality Program's activities around Oregon and also reviewed the summary of Coos SWCD accomplishments between 2004 and 2006. Oregon Department of Environmental Quality staff provided a brief update on Total Maximum Daily Load development in the area and commented on monitoring activities in the Management Area.

Committee members agreed to update the Area Plan to include the latest information about the TMDL schedule in the Management Area and recent revisions to state water quality standards.

Several committee members commented on the need for continued outreach, including success stories about landowners who are implementing positive practices. The committee also discussed water quality monitoring in the Management Area and identified several additional monitoring sites that would be useful for tracking water quality trends.

#### **IV. Background**

When developing the Coos and Coquille Area plan and rules, the LAC identified several objectives that, if achieved, would significantly improve water quality in the Management Area. The LAC then developed rules that had to be met on all agricultural and rural lands. Each rule was intended to prevent pollution as close to the source as possible, and to meet agriculture's expected load allocations in the Total Maximum Daily Loads (TMDL) for the area.

##### **Area Plan Mission Statement**

Identify ways to reduce agricultural water pollution in the Coos and Coquille area. It is intended that implementation of the plan be focused on voluntary efforts to address water quality concerns. To the greatest degree possible, prevention and control of agricultural pollution will be encouraged in a cooperative spirit through the voluntary efforts of landowners, aided by information and technical and financial assistance from local, state, and federal agencies and others.

##### **Area Plan Objectives**

- Maintain, protect, and improve water quality.
- Encourage the voluntary development of farm plans for all agricultural producers.
- Raise public awareness of agriculture's contribution to improving water quality.
- Provide public education about positive management practices and implementation.
- Encourage and assist landowners in developing monitoring plans that will continue to reinforce the idea of water quality improvement in the Coos, Coquille, and Tenmile watersheds.

##### **Summary of the 2001 Coos and Coquille Area Plan and Rules**

The LAC developed a series of pollution control and prevention guidelines specifically for the Coos and Coquille basins. This section was developed around the water quality standards listed in the Coos and Coquille basins which are directly affected by agricultural activity; for example, sedimentation, nutrients, bacteria, and temperature. For each of these parameters, the committee identified:

- information about the parameter to provide basic understanding of the reason for concern.
- a statement identifying the unacceptable condition that will be reflected in the Oregon Department of Agriculture Administrative Rules.
- steps that will be taken by the Oregon Department of Agriculture when investigating a complaint.
- examples of situations that could lead to an unacceptable condition. These examples were provided to alert landowners and managers to potential problems, rather than to prescribe particular treatments.

Also, a list of educational and project oriented objectives were identified.

#### **Area Plan and Rules Implementation Activities, 2004-2006**

As described in the Area Plan, Coos County SWCD is the Local Management Agency for the Coos and Coquille Plan. Part of Douglas county and therefore Douglas SWCD is also within the plan boundary. Coos SWCD directors and employees have worked closely with ODA, NRCS, and OSU Extension to hire competent technicians, coordinators, monitoring services, workshop presenters, and initiate mass media campaigns.

#### **Coos SWCD Activity Summary 2004-2006**

**Newsletters**— Four *Watershed Ag Journal* newsletters produced and distributed. Each mailing consisted of approximately 480. Newsletters are also distributed at local feed stores.

**Newspaper articles**— Four newspaper articles related to the Coos & Coquille Area Plan, submitted by the Outreach Coordinator, appeared 20 times in local papers.

**Presentations or displays to groups**— There were several presentations or displays to groups totaling 15 presentations with attendance of 235 total.

**Website**— The Outreach Coordinator has maintained the Coos SWCD website, [www.coosswcd.oacd.org](http://www.coosswcd.oacd.org), including information about the Coos & Coquille Area Plan.

**Coordination with other agencies**— The Outreach Coordinator has provided Area Plan presentations to both the Coos and the Coquille Watershed Councils and the NRCS Southwest Basin Team. The Outreach Coordinator has co-coordinated water quality workshops with NRCS, Curry SWCD, Coos, Coquille and Tenmile Watershed Councils, OSU Extension, DEQ and Oregon Department of Fish and Wildlife.

**Fact Sheets**— Eight fact sheets about the Area Plan were produced in bulk and are distributed to specific fact sheet display racks at 3 feed stores and 2 offices (SWCD and OSU Extension).

**Clearinghouse of Info—** The SWCD and NRCS have served the local agricultural community as resources of technical information related to positive management practices.

**Archive for LAC—** The Outreach Coordinator has coordinated and archived all LAC correspondence and LAC meetings and meeting records.

**Farm plans—** 31 new farm plans representing 23,940 acres have been developed and signed by the SWCD in the last two years. Encouragement of voluntary farm plans is always part of Coos & Coquille Area Plan presentations and outreach. This acreage represents approximately 17% of the agricultural land in Coos County, according to county agricultural land acreage data from the 2002 Census of Agriculture.

**Grant projects developed by the Coos SWCD—** The Coos SWCD worked with two landowners to develop two Oregon Watershed Enhancement Board small grant projects.

**Employment of a Farm Planner and other staff—** During this time the SWCD has steadily employed a part-time District Administrator/Outreach Coordinator, a full-time Watershed Technical Specialist, and a full-time Conservation Technician. Currently, the District Administrator/Outreach Coordinator, a Watershed Technical Specialist (WTS), and Conservation Technician work for the SWCD. The main objective of the WTS is to produce farm plans.

#### **Natural Resource Conservation Service and Farm Service Agency Accomplishments**

The Natural Resources Conservation Service (NRCS) and Farm Service Agency (FSA) administer several federal conservation funding programs and provide technical assistance to landowners who enroll. During the two-year period, these agencies have worked with landowners to complete approximately 9 miles of fencing and planting projects and 6,500 acres of riparian plantings.

#### **Watershed Council Activities**

Along with the Coos SWCD and NRCS partners, three watershed councils, the Coos, Coquille, and Tenmile, have completed several projects on agricultural lands. These on-the-ground partners are vital in helping agricultural landowners protect their resources and help themselves.

#### **Tenmile Lakes Basin Partnership Accomplishments**

- Three riparian fencing systems installed along 6 miles of stream
- Approximately 6,000 seedlings planted along 7 stream reaches
- Five bank stabilization projects
- 22 fish passage and sediment abatement projects
- The group also has a stream water quality monitoring project with two sites on agricultural lands monitored for nutrients and 17 sites monitored for temperature.

#### **Coos Watershed Council Accomplishments**

- Completed riparian plantings on three Conservation Reserve Enhancement Program projects. Two of the projects also involved culverts to facilitate livestock crossings, and one of the projects involved re-connecting a tidal section of stream to a 10-acre willow marsh.
- Worked with a landowner along Millicoma Creek to fence and plant riparian areas along a pasture.
- The council has conducted intensive monitoring of riparian planting projects to track survival and effective moisture conservation methods.

#### Coquille Watershed Council Accomplishments

- Completed 8 fish passage projects, consisting of 3 culvert replacements, 5 culvert-to-bridge projects, and 1 bridge-to-bridge project. Also, a cattle pass was created to reduce sediment.
- Fenced and planted nearly 3 miles of riparian area, while also donating many trees to landowners for planting riparian areas on their own. Approximately 8 miles of fencing are planned for the remainder of 2006, starting in April.
- Completed a two-acre wetland creation and enhanced another wetland area by enlarging and deepening the wetted area.
- Began one instream (log) project (phase 1). Phase 2 will be completed in summer 2006.

#### Complaints

Since the last biennial review, ODA received one complaint in the Coos and Coquille planning area. Agricultural Water Quality Program and Confined Animal Feeding Operation program staff have worked together to follow up with the landowner on water quality concerns identified during the complaint investigation.

#### **V. Conclusions**

The Coos SWCD, Local Advisory Committee, and Oregon Department of Agriculture believe the Area Plan and Rules implementation is going smoothly. Landowners continue to work with a variety of local partners to implement water quality improvement activities. Many landowners are working with partner agencies and organizations to access funding to support water quality improvement activities, or are receiving federal incentive payments because of their track record of good stewardship.

Water quality monitoring is ongoing in the Management Area, and the LAC believes additional monitoring would be beneficial to track agricultural influences on water quality. The LAC also supports continued outreach to inform more landowners about the Area Plan and Rules.

The Coos Soil and Water Conservation District will continue implementing the Area Plan in cooperation with ODA and other partners.

#### **Expanded Background – history and legal basis for Plan and rules adoption**

The Coos-Coquille Agricultural Water Quality Management Area plan and rules were adopted in 2002, pursuant to Oregon Revised Statute (ORS) 568.900 - .933. This statute authorizes the Department to designate management areas and to develop and adopt plans and rules for areas which the Department of Environmental Quality (DEQ) has identified and listed water quality limited streams or stream segments on Oregon's 303(d) list and has established, or intends to establish, Total Maximum Daily Loads (TMDLs), or where a water quality management plan is otherwise required by state or federal law.

Total Maximum Daily Loads (TMDLs) are being developed by DEQ for temperature, nutrients, sediment, and bacteria to address 303(d) listings in the Management Area. Stream segments were also listed on DEQ's 2002 303(d) list of water quality limited waterbodies for dissolved oxygen, pH, and algae. While not triggering action for plan and rule adoption, coho salmon are listed a "threatened species" in what is known as the Southern Oregon/Northern California Evolutionarily Significant Units (ESUs) by the National Oceanic and Atmospheric Association - Fisheries Service. Area rules for improved riparian conditions and water quality support the recovery efforts for these species.

## **Attachment A. Monitoring and Evaluation of the Area Plan**

Evaluation of the Area Plan's success involves several types of monitoring. These are:

- Baseline condition monitoring
- Trend monitoring
- Implementation monitoring
- Effectiveness monitoring

This section describes each type of monitoring and the activities associated with each type of monitoring.

### **Baseline Condition and Trend Monitoring – What are current conditions and how are they changing?**

Baseline condition monitoring provides a starting point for assessing water quality trends and land conditions. To evaluate the effects of the Area Plan and Rules, implementation partners must establish a picture of conditions prior to implementation.

Trend monitoring evaluates long-term changes in landscape conditions and water quality. In general, trend monitoring activities are a continuation of baseline monitoring activities. Ideally, areas selected for baseline monitoring will also be used for trend monitoring.

To assess existing water quality conditions, Oregon Department of Agriculture water quality staff review water quality data from the Oregon Department of Environmental Quality's Laboratory Analytical Storage and Retrieval (LASAR) database. In many cases, monitoring sites included in this database are adequate to track water quality in agriculturally influenced watersheds. In other cases, ODA staff may recommend additional monitoring sites that would be useful for tracking agriculture's effects on water quality.

ODA looks at all data for trends, but focuses on the parameters of concern for the specific subbasin.

ODA applies the following criteria to water quality data used for trend monitoring:

- 1) Monitoring stations must have at least partial influence from agricultural lands.
- 2) Data must not be older than 1985.
- 3) Data must be a continuous record of at least two years (the frequency of monitoring was not considered).
- 4) Data set ideally should include at least the following constituents:
  - a) Total Suspended Solids
  - b) Nitrate
  - c) Ammonia
  - d) E. coli or fecal coliform
  - e) Total Phosphorus or orthophosphate
  - f) Dissolved Oxygen, or Chemical Oxygen Demand/Biochemical Oxygen Demand
  - g) pH

The above constituents are considered needed for tracking changes in water quality related to agricultural activities. Temperature is not included on this list because it is continuously monitored, rather than periodically like the parameters above, and because ODA expects changes in temperature to take place more slowly with changes in land conditions.

An ODA review of monitoring stations in the Management Area concluded the existing provide enough data to characterize water quality trends as part of ODA's larger statewide effectiveness monitoring efforts. However, the Local Advisory Committee identified several additional sites that would be useful for tracking water quality trends locally in agriculturally influenced watersheds. Below is a summary of water quality trends from the existing stations in the LASAR database reviewed by ODA, followed by summaries of watershed council monitoring data and the LAC's recommendations for additional monitoring sites.

#### *LASAR Data Summary*

The DEQ LASAR database had nine monitoring stations within the Coos-Coquille Management Area that met ODA's criteria. Data are still collected for five of those stations. These sites are the mainstem Coquille River at Sturdivant Park; the Middle Fork Coquille at Highway 42; the North Fork Coquille at Highway 42, the Millicoma River at a boat ramp around River Mile 3; and the South Fork Coos at A. Rogers Bridge.

A 2003 review of data from the nine stations showed good water quality at some sites and also identified some water quality concerns. Low dissolved oxygen was measured on Bear Creek at Highway 42S. Total suspended solids and turbidity were elevated on the mainstem Coquille River at Sturdivant Park, on the Middle Fork Coquille at Highway 42, and the North Fork Coquille at Highway 42. Elevated fecal coliform or *E. coli* was reported for Cunningham Creek and the North Fork Coquille at Highway 42. Monitoring stations on the South Fork Coos River, mainstem Coquille River at River Mile 23, and Millicoma River did not have elevated concentrations of the parameters reviewed.

A review of data through 2005 found some changes in water quality at the five ambient monitoring sites. The Coquille River at Sturdivant Park showed a recent increasing trend in *E. coli*, with high values starting late in 2003. This site continues to have elevated turbidity. The Middle Fork Coquille shows a slightly increasing trend in turbidity. An increasing trend in total suspended solids is apparent at the South Fork Coos monitoring stations, and the Millicoma River shows a slight upward trend in dissolved oxygen.

#### *Watershed Council Monitoring Data*

In addition to the LASAR data summary prepared by ODA, local watershed councils provided information on their monitoring efforts for this report, including water temperature monitoring efforts. The Coos Watershed Association (CWA) has collected stream temperature data as part of the watershed assessment process. In 2003 and 2004, the CWA collected data on several Coos Bay tributaries, including Kentuck, Willanch, Echo, Larson, North Slough, and Palouse Creeks. Each stream monitored had at least one site with 7-day maximum stream temperature averages that exceeded the criteria. Generally, stream temperatures in these watersheds



increased from upstream to downstream, although tidally influenced sites downstream had generally cooler 7-day averages than upstream monitoring sites. Also, 7-day maximum temperature averages at monitoring sites higher in each watershed were generally less likely to exceed the DEQ temperature criteria at the time (64 degrees Fahrenheit).

The CWA also collects stream temperature data along a 1.5-mile segment of Willanch Creek as part of an effectiveness monitoring study. Monitoring began in 1997 as three restoration projects were installed on Willanch Creek. Monitoring results from 1997 to 2005 found the maximum 7-day average stream temperature downstream of the restoration area decreased from 74.2 to 63.6 degrees Fahrenheit in 2005. The CWA plans to continue long-term stream temperature monitoring in the restoration project area.

The Coquille Watershed Council has a full-time monitoring coordinator who will begin doing water quality monitoring this summer. The council has conducted 4 consecutive years of temperature monitoring, with bacteria and dissolved oxygen being added this year.

#### *Additional Recommendations for Monitoring Sites*

The Local Advisory Committee identified additional sites that would help characterize trends in agriculturally-influenced watersheds in the Management Area. The LAC recommends adding long-term monitoring stations in either the Fourmile or Twomile watershed, Tenmile watershed, at least one Coos Bay tributary, and South Fork of the Coquille River.

The LAC also recommends that trend monitoring analyses of data from monitoring sites in tidally influenced portions of the watersheds review only data collected during run-out.

#### **Implementation monitoring – What is being accomplished?**

Implementation monitoring tracks the conservation practices that have been implemented to benefit water quality. The local Soil and Water Conservation District and Natural Resources Conservation Service track practices that have been implemented through quarterly reports to the Oregon Department of Agriculture and through an NRCS database. In addition, projects that have received funding from the Oregon Watershed Enhancement Board are tracked in OWEB's restoration database.

It is more difficult to track beneficial practices that landowners have implemented on their own without funding or outside technical assistance.

Accomplishments within the Coos-Coquille Management Area between 2004 and 2006 are summarized on pages 2 and 3 of this report.

#### **Effectiveness monitoring – Are efforts protecting and improving water quality?**

Effectiveness monitoring occurs at two scales. At a Management Area scale, land condition data and water quality data are compared over time to determine if changes in land conditions are

improving water quality. At a farm scale, ODA and local partners have initiated several projects to evaluate the effects of several management practices on water quality.

In the Coos-Coquille Management Area, ODA plans to work with the SWCD to evaluate Conservation Reserve Enhancement Program riparian plantings and weed competition. The evaluation should help identify weed control methods that are most effective in ensuring riparian planting success.